TEXAS STATE LIBRARY AND ARCHIVES COMMISSION

Time to Upgrade Your Library's Technology Equipment…
but How?

With Cindy Fisher, Henry Stokes, and Carson Block

Carson Block Consulting Inc.

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**Welcome!
Our Agenda:**

- Familiarize yourself with tools that can be used to **diagnose library technology problems and help determine needs**

- Understand **elements of technology planning best practices** for local library use

- Understand the **process of evaluating technology products**

- Gain confidence in **explaining your community's technology needs for grant proposals and funding requests**

- Live Session: Q&A and guided problem-solving using the tools discussed here

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Your Hosts

Cindy Fisher

Digital Inclusion Consultant
TSLAC

Henry Stokes

Library Technology Consultant
TSLAC

Carson Block

Library Technology Consultant

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Handouts from this webinar:

• Toward Gigabit Libraries Toolkit

• Technology Inventory (Hardware and Software)

• Total Cost of Ownership (TCO) Worksheet

• Pro Tips and Examples

• Speed Test Worksheet

• Network Diagram Worksheet

• Purchasing Evaluation Guide

• Tech Items to Purchase

• Resource Links Document

• Rack Diagram Worksheet (OPTIONAL)

Available for download from Google Drive:
https://tinyurl.com/yj2e5r39

How Do I Get Webinar Materials?

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Why be concerned about technology updates?

• Tech doesn't last forever. (Sorry)

• We don't really buy tech – instead we "rent" its capabilities for a fixed amount of time.

• Needs are always increasing (think COVID experiences)
  • Remote everything:
    • Learning
    • Meeting
    • Communicating
    • Telehealth
    • More…

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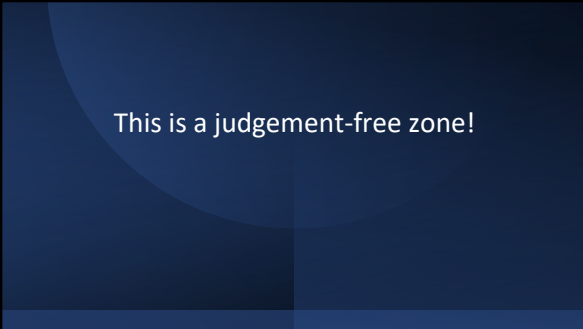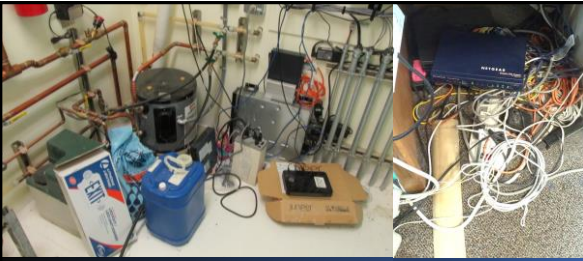Carson's definition of "broadband" Internet

- What is available?
- What can you afford? (don't forget E-Rate, grants, other funding possibilities)
- Does it scale? (whatever you have today, you will need more tomorrow)
- Advocacy: who else needs it and how do you join together?

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This is a judgement-free zone!

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Does your tech room look like this?
(Actual Site Visit Photos)

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Slide 13

Does your internet speed look like this?

MLAB

YOUR TEST RESULTS

UPLOAD SPEED
410.00 kb/s

DOWNLOAD SPEED
17.35 kb/s

TEST AGAIN

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Slide 14
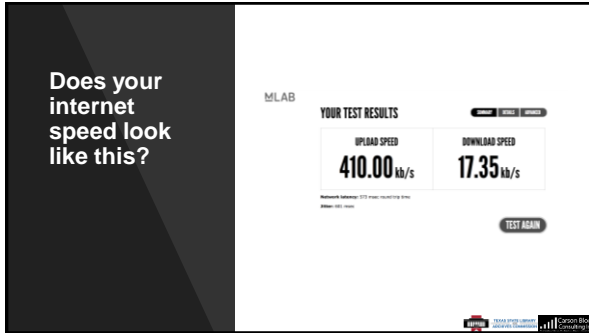
Possible Technology Upgrades

- Improved Internet connection
- Internal upgrades (wiring but not construction)
- Filtering solutions
- WiFi hotspots and devices with data plans
- Computers and Peripherals
- Laptops
- Printers

Be ready for funding opportunities if they appear!

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Slide 15

Key Challenges and Pro Tips

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Key Challenge: Supply Chain Snags

Pro Tip 1: Work with a vendor who can give you inventory and shipping status

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Texas State Approved Vendors

Link to vendors: https://dir.texas.gov/View-Contracts-And-Services/Landing.aspx
Webinar about vendors: https://onlinetraining.tsl.texas.gov/enrol/index.php?id=431

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Key Challenge: Sustainability

Pro Tip #2: Start **evaluating** and **planning for replacement** when your gear is 3 years old.

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What!? You say *all gear* in your library is more than 3 years old?

It's OK – this is your lucky day!

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Key Challenge: Understanding Filtering & Compliance

Pro Tip #3: Start with policy (as informed by your technical options – more in a bit)

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Key Challenge:

Understanding *all* the costs of a technology project.
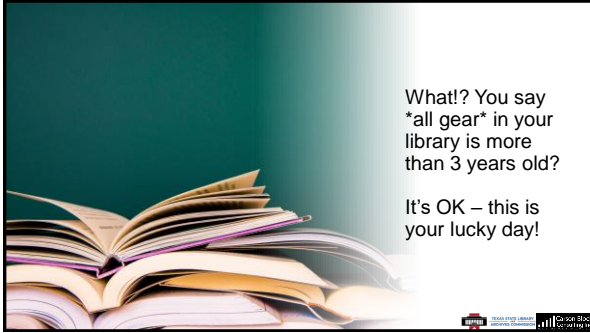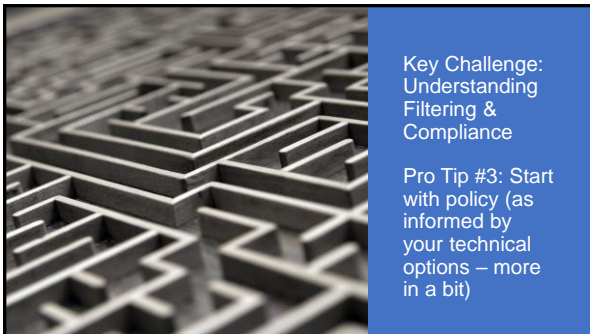
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Pro Tip #4: Determining Total Cost of Ownership

One of the first questions that comes up when considering a technology expense is "How much is this going to cost?"

Simple TCO Worksheet - Library IT	
(It's ok to use rough estimates - if you don't know, leave amount blank)	
Expense	**Amount**
Staff Time - Research	$0.00
Vendor Quote	$0.00
Hardware	$0.00
Software	$0.00
Installation (not covered by vendor quote)	$0.00
Training (not covered by vendor quote)	$0.00
Ongoing support (ie.maintenance contracts)	$0.00
Licensing	$0.00
Insurance	$0.00
Construction costs	$0.00
Labor costs (incl. project management)	$0.00
Total	$0.00

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There is no one way to determine TCO, but here are a few elements to consider:

- Research (including creation of "Requests for Proposals" or "Requests for Information")
- Vendor Quotes (may include some of the items below)
- Hardware
- Software
- New processes (including security, backup and restore, etc.)
- Installation (including any retro-conversion or migration expenses)
- Training

- Ongoing support (including warranties, annual maintenance contracts, etc.)
- Licensing
- Insurance
- Construction costs
- Any new labor costs (including project management, IT staff time, testing, etc.)
- Any downtime due to transition
- Replacement costs (over time – expected lifetime of initial investment)
- Any other long-term expenses

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Technology Assessment: Diagnose Library Technology Problems and Determine Needs

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Technology Inventory

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Your best friend for troubleshooting and assessments!

TOWARD GIGABIT LIBRARIES
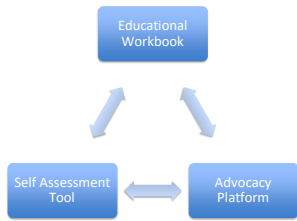
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Toward Gigabit Libraries "Explainer" Video

How to use the Toward Gigabit Libraries Toolkit

https://www.youtube.com/watch?v=PXWv3-HYm-I

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What is the Toolkit?

Educational Workbook

Self Assessment Tool

Advocacy Platform

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Toolkit Approach

Questions are presented first, and additional information and resources follow in text boxes

5. TECHNOLOGY INVENTORY—YOUR LIBRARY
In this section, you will inventory some of the key pieces of the technology inside your library, including your network, computers, and other important technology components. This inventory will help you understand what sort of equipment you have now, and provides a basis to determine if you need different or additional equipment for the future.

5A. Broadband Connection
If you have more than one broadband connection, i.e., two different types of technologies or service providers, answer the following questions in this "Broadband Connection" question for each connection.

1. What type of internet connection does your library currently have?
Choose all that apply.

- [ ] Digital Subscriber Line (DSL)
- [ ] Cable Modem
- [ ] Fiber
- [ ] Wireless
- [ ] Satellite
- [ ] Other [add here]

There are three primary types of broadband—wireline (DSL, cable modem, and fiber), wireless, and satellite. Definitions for the types of internet connections listed here are available at the FCC website–https://www.fcc.gov/general/types-broadband-connections

Speed Ranges by Type of Broadband (Kbps - kilobit, Mbps - megabit, Tbps - terabit)

Technology	Type	Download Speed Range	Upload Speed Range
Fiber	Wireline	188 Mbps - 1 Tbps	188 Mbps - 1 Tbps
Cable Modem*	Wireline	256 Kbps - 10 Gbps	256 Kbps - 10 Gbps
DSL*	Wireline	256 Kbps - 100 Mbps	256 Kbps - 16 Mbps
Fixed Wireless / Microwave	Wireless	1 Mbps - 155 Mbps	1 Mbps - 155 Mbps

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Let's look at the Toolkit, section-by-section

2. HOW TO USE THE TOOLKIT

3 EASY STEPS

1. Read the question in the gray box.
2. Place your cursor in the gray box below the question and type your response. If you need more space, simply hit the return key.
3. Below each gray question and answer box, is an outlined box with resources to help you answer the question.

The Toolkit is designed to help library staff assess and evaluate their library's broadband connection, including inside wiring. The Toolkit also serves as an educational training tool aimed at guiding library staff through the sometimes confusing world of broadband technology in an easy to understand and accessible way.

The Toolkit is organized as follows: Questions relating to the library's broadband connection, infrastructure, and related services and operations are posed in a series of gray boxes. The person using this toolkit may type the answers to these questions in the same gray boxes. "Help text" appears immediately below each question and is designed to assist in answering each question directly or provide additional guidance, education, detail, information and additional resources associated with the topic.

Some of the activities and training resources that library staff may do while engaging in the Toolkit are items that can be listed as a part of the library's "Broadband Improvement Plan."

In some instances, where available, working through the Toolkit with a technical resource (staff member, volunteer, etc.) is helpful.

https://internet2.edu/community/community-anchor-program/cap-library-resources/toward-gigabit-libraries/

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Technology Inventory – Your Library

In this section, you will inventory some of the key pieces of the technology inside your library, including your network, computers, and other important technology components. This inventory will help you understand what sort of equipment you have now and provides a basis to determine if you need different or additional equipment for the future.

- Broadband Connection
- Network Devices
- Wired Network and Power
- Wireless Network and Power
- Computer and End User Devices

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Broadband Services and Activities

In this section, the types of broadband services and applications are discussed in order to ensure that the library has sufficient bandwidth to support patron and staff use of various devices and applications both today and in the future.

- Bandwidth Needs
- Hot-Spot Lending
- Internet Filtering
- Offered Services

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Broadband Technical Operational Support

Technology in libraries is more than just a collection of gear. People, including library staff and those who provide technical support, are just as important. In this section you will learn more about the people who help make technology available in your library and determine if there are any areas where you could benefit from additional support.

- Available Technology Support
- Staff Training Resources
- ISP Technical Support
- ISP Service Requests
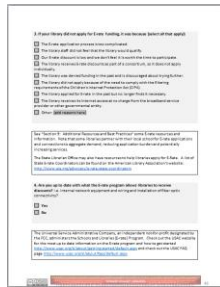- ISP Service Guarantees

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Broadband Funding

Technology expenses are important budget considerations for all libraries. In this section you will learn about several opportunities available to help provide funding for your library broadband connectivity.

- Price For Connection
- E-rate Funding
- Other Funding Sources

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Additional Resources and Best Practices

The topics listed here are designed to provide you even more insight and resources into improving your library's broadband connectivity and services. You may find these items helpful in gaining a better understanding of your broadband connection, data network, and computers.

- Erate
- Content Filtering
- Additional Broadband 101 Resources
- Free Technology Related Training Opportunities & Resources for Librarians
- Data Backup
- Internet Use Policies

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Glossary

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Real-life Example #1:
Patrons or staff complaining
about low Internet speeds

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Solution: Drawing a Network Diagram and using it to solve problems
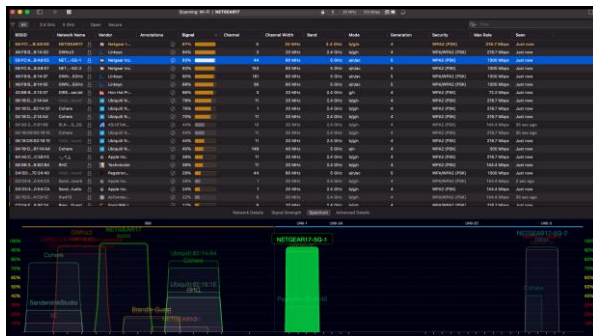
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Real-life Example #2: WiFi "Dead spots"

Solution:
"Seeing the invisible"
by using
a WiFi Stumbler

PS: The Toolkit lists some to try for Android, IOS, Mac and PC! See page 35…

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**Real-life Example #3:
Understating Filtering
(for Children's Internet Protection Act
- CIPA –
Compliance)**

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Where does filtering fit in?

DNS vs. Hardware vs. Software

What is the difference between a firewall and filtering?

Will a firewall alone make a library CIPA compliant?

If not, are there any bundled options that are recommended?

TSLAC Webinar explaining a few different options:
https://onlinetraining.tsl.texas.gov/course/view.php?id=310&section=0
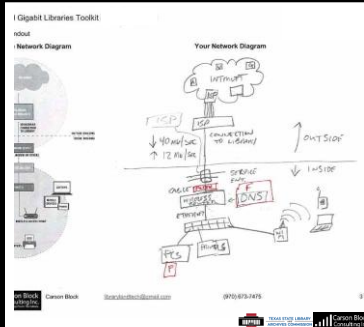
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**Real-life Example #4:
Adding in-house use of
laptops to provide patron access
to more computers in your library.**

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Laptops in the Library

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Tech Connect - Santa Fe Public Library

Check out laptops & hotspots with your library card!

SFPL Tech Connect

Santa Fe Public Library
Community Services Department, City of Santa Fe, New Mexico

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Managing a laptop checkout program

Vision and Purposed for hardware circ?

In-house or out-of-house? Huge difference!

Protecting the machines
• "Dixie Cups" or rugged?

Protecting patrons
• Anti-virus
• Deep Freeze
• OS updates

User Experience (Patrons and Staff)
• Automated or Manual Circ?
• Tech support (all types)
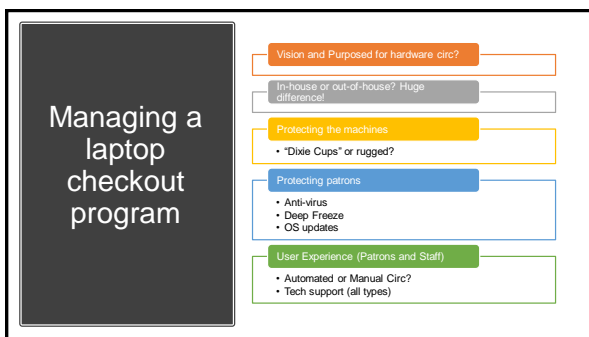
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How Do I know What I Need?

Time to Upgrade Your Library's Technology Equipment...but How?
Technology Items to Purchase
July 29, 2021

Item	# Items	Cost Per Item	Total Cost	Comments	Source of Purchase

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Evaluating Technology Products
(Handout: Review Resources)

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Good News!

Many off-the-shelf computers already have what you need!

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Some Best Practices - Computers

- "Midrange" is a great bet for common tasks
- More RAM and better processors for heavy-duty tasks (like video editing, 3D/CAD and graphics design)
- What about Macs and the M1 chip? (changes in onboard RAM)
- Refresh Cycles – a little longer today depending on use
- Installation assistance – Public PC vs Staff PC
- Maintenance

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Handouts from this webinar:

- Toward Gigabit Libraries Toolkit
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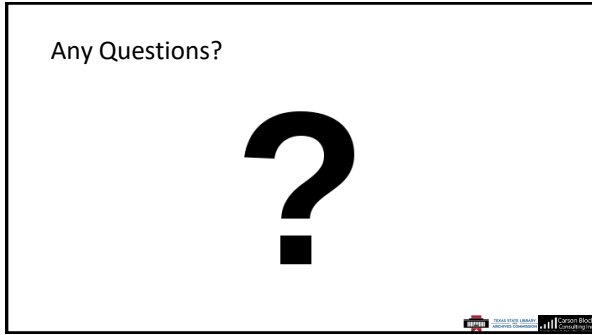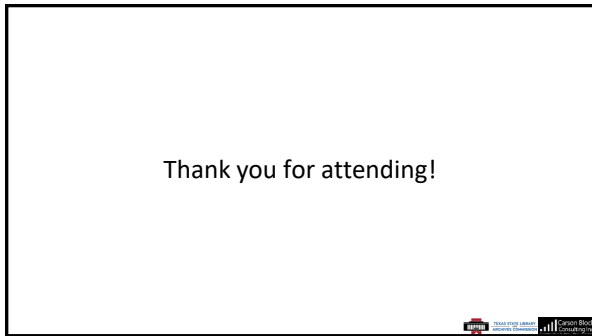59

Additional resources from TSLAC

- You Can Do I.T.
  - Basic Hardware and Software for Public Libraries
  - Basic Network Technology for Public Libraries
- Texas Digital Inclusion webinar archives
  - Towards Digital Equity and Technology Access in Texas Libraries
  - The Library's Role in Connecting Texans to Internet Access
- Archived TSLAC Technology webinars
- Digital Inclusion, Technology and E-rate resources
- TSLAC Grants landing page

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Any Questions?

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Thank you for attending!

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